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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/737,640	12/15/2000	Hamid Reza Karimi	4-2-15-12-10-29	2282

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LUCENT TECHNOLOGIES INC.
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EXAMINER

MILLER, BRANDON J

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 08/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/737,640

Applicant(s)

KARIMI ET AL.

Examiner

Brandon J Miller

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6-9 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Katz.

Regarding claim 1 Johnson teaches a cellular radio telecommunications network, in which in use physical channels may be reused and reused channels on the up link being differentiated by time groups between them (see abstract and col. 2, lines 16-21). Johnson does not teach physical channels that may be reused in the same cell or a space division multiple access (SDMA) cellular radio telecommunications network. Katz teaches a space division multiple access (SDMA) cellular radio telecommunications network (see col. 1, lines 20-25 and col. 2, lines 29-34). Katz also teaches physical frequency channels that may be reused within the same cell (see pg. 2, lines 25-27 & 29-34 and pg. 5, lines 10-13). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the Johnson adapt to include physical channels that may be reused in the same cell or a space division multiple access (SDMA) cellular radio telecommunications network because this would allow less interference to other mobile stations in other cells using the same frequency when communicating with a particular mobile station in an associated cell.

Art Unit: 2683

Regarding claim 6 Johnson teaches two receivers operating with mutually shifted time references (see col. 2, lines 16-21 and FIG. 1A).

Regarding claim 7 Johnson teaches a time group that includes propagation delay in the reused channels (see col. 6, lines 45-47 & 56-59).

Regarding claim 8 Johnson and Katz teach a device as recited in claim 1 except for a time shift that is approximately equal to a guard interval. Johnson does teach a guard band period that is approximately equal time period (see col. 12, lines 53-56). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the Johnson and Katz adapt to include a time shift that is approximately equal to a guard interval because this would allow for higher effective reuse patterns to be utilized, providing more reliable performance of the data link.

Regarding claim 9 Johnson teaches a cellular radio telecommunications network, in which in use physical channels may be reused and reused channels on the up link being differentiated by time groups between them (see abstract and col. 2, lines 16-21). Johnson does not teach physical channels that may be reused in the same cell or a space division multiple access (SDMA) cellular radio telecommunications network. Katz teaches a space division multiple access (SDMA) cellular radio telecommunications network (see col. 1, lines 20-25 and col. 2, lines 29-34). Katz also teaches physical frequency channels that may be reused within the same cell (see pg. 2, lines 25-27 & 29-34 and pg. 5, lines 10-13). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the Johnson adapt to include physical channels that may be reused in the same cell or a space division multiple access (SDMA) cellular radio telecommunications network because this would allow less interference

Art Unit: 2683

to other mobile stations in other cells using the same frequency when communicating with a particular mobile station in an associated cell.

Regarding claim 14 Johnson teaches a device as recited in claim 6 and is rejected given the same reasoning as above.

Regarding claim 15 Johnson teaches a device as recited in claim 7 and is rejected given the same reasoning as above.

Regarding claim 16 Johnson teaches a device as recited in claim 8 and is rejected given the same reasoning as above.

Regarding claim 17 Johnson teaches a protocol for carrying out steps (see 3, lines col. 62-67).

Regarding claim 18 Johnson teaches a computer program for carrying out steps (see col. 7, lines 60-65).

Claims 2-3, 5, 10-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Katz and Falco.

Regarding claim 2 Johnson and Katz teach a device as recited in claim 1 except for reused channels that use a common clock signal. Falco teaches communication channels that use a common clock signal (see col. 2, lines 38-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the Johnson and Katz adapt to include reused channels that use a common clock signal because this would provide timing synchronization between base stations in a cellular radio telecommunications network.

Regarding claim 3 Falco teaches the timing advance information for each base station using a channel that is transmitted on the downlink (see col. 2, lines 38-45).

Art Unit: 2683

Regarding claim 5 Johnson and Katz teach a device as recited in claim 1 except for a master base station and a co-located slave base station, wherein the master base station generates a common reference clock and the slave base station uses a shifted reference clock to send time shift information to the mobiles. Falco teaches a candidate base station and a co-located serving base station, wherein the candidate base station generates a common reference clock (see col. 2, lines 20-22 and a slave base station that uses a shifted reference clock to send time shift information (see col. 4, lines 53-61). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the Johnson and Katz adapt to include a master base station and a co-located slave base station, wherein the master base station generates a common reference clock and the slave base station uses a shifted reference clock to send time shift information to the mobiles because this would allow for an accurate timing source between two co-located base stations.

Regarding claim 10 Johnson, Katz and Falco teach a device as recited in claim 2 and is rejected given the same reasoning as above.

Regarding claim 11 Johnson, Katz and Falco teach a device as recited in claim 3 and is rejected given the same reasoning as above.

Regarding claim 13 Johnson, Katz, and Falco teach a device as recited in claim 5 and is rejected given the same reasoning as above.

Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Katz and Teder.

Regarding claim 4 Johnson and Katz teaches a device as recited in claim 1 except for reused channels that all use the same signature. Tedar teaches channels that all use the same

Art Unit: 2683

signature sequence (see col. 12, lines 34-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the Katz and Tedar adapt to include reused channels that all use the same signature because this would allow transmission alignment in down-links from more than one base station to the same mobile station.

Regarding claim 12 Johnson, Katz, and Tedar teach a device as recited in claim 4 and is rejected given the same reasoning as above.

Response to Arguments

Applicant's arguments filed 5/29/2003 have been fully considered but they are not persuasive. Regarding claims 1 and 9 Katz teaches an SDMA network and re-using the same frequency within the same cell (see col. 2, lines 19-24 & 29-34) this relates to the claimed "space division multiple access (SDMA) cellular radio telecommunications network, in which in use physical channels are used in the same cell".

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2683

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jan U.S Patent No. 5,657,323 discloses a method and apparatus for signal transmission in a communication system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J Miller whose telephone number is 703-305-4222. The examiner can normally be reached on Mon.-Fri. 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 703-308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

July 30, 2003


WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600